UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

SUBJECT: Toxicological Review of HW29 Data — 28 March 2012
Dimock, PA

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On 31 January 2012, U.S. EPA collected water samples from HW29 in Dimock. The samples were analyzed for over 200 constituents, including volatile organic compounds, semi-volatile compounds, metals and bacteria. The analytical results were then validated and compared to risk-based screening levels and/or standards for public drinking water supplies.

Methane

In HW29, methane was detected at 77,000 ug/L (wellhead) and 62,000 ug/L (wellhead duplicate). A quantitative assessment of risk cannot be performed for methane, nor does U.S. EPA have a drinking water standard for this compound. However, the Department of Interior (Office of Surface Mining Reclamation and Enforcement) has established a Recommended Action Level of 28,000 ug/L for dissolved methane in drinking water. This value is based on the potential threat of explosion associated with methane in confined environments. The potential for methane in air to create an explosive environment depends on a number of factors, such as the concentration, the volume of the space and the frequency of air exchanges in the space. Proper room ventilation will ensure that methane levels in indoor air do not present a safety hazard.

Lithium

Lithium was reported in HW29 at concentrations of 478 ug/L (wellhead), 462 ug/L (wellhead dupicate), 493 ug/L (filtered), and 463 ug/L (filtered duplicate). With a risk-based screening level of 31 ug/L under a long-term exposure scenario, there is a non-cancer threat associated with chronic exposure to the observed levels of lithium (Hazard Quotient = 16). Note, however, that the concentration of lithium at the tap of this residence is not known. Under acute exposure conditions, ATSDR has suggested a screening concentration of 1500 ug/L for lithium in drinking water.

Sodium

Samples collected from HW29 contained sodium at concentrations of 195,000 ug/L (wellhead), 190,000 ug/L (wellhead duplicate), 201,000 ug/L (filtered), and 189,000 ug/L (filtered duplicate). A quantitative assessment of risk cannot be performed for sodium; however, U.S.

EPA has a non-enforceable Health Advisory of 20,000 ug/L for sodium in drinking water. This value is based on recommendations for individuals on sodium-restricted diets.

No other constituents were detected at levels of concern in this well.